UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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M E M O R A N D U M

DATE: December 17, 1990

FOR: John J. Linehan, Director, HLPD, Division of High-Level Waste Management, M/S 4 H 3

FROM: John W. Gilray, Sr. OR - YMP

SUBJECT: YMP Site Report for the month of November, 1990

I. QUALITY ASSURANCE

A. QA Surveillance of the YMP Technical Requirements Document for Midway Valley and Calcite/Silica Activities

The YMP QA organization (Terry Noland and Jim Blaylock) conducted a QA surveillance (YMP-SR-91-006) of the YMP Technical Requirements Document for Midway Valley Trenching and Calcite/Silica Activities at Las Vegas on November 28, 1990, and at Sandia National Lab, Albuquerque, NM, on December 3 and 4, 1990, followed up by an exit meeting on December 5, 1990, at Las Vegas to discuss the results of this surveillance. I represented the NRC as an observer of the portion of the surveillance conducted at Las Vegas.

Check lists identifying the characteristics and processes were prepared and used throughout this surveillance. Particular attention was devoted by the surveillance team in a thorough review of the documented comments of reviewers and the resolutions to these comments. The final released Technical Requirements Document was also reviewed to determine that the resolutions to the comments were adequately incorporated in the document.

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In addition, the surveillance team traced the requirements in the Technical Requirements Document back to the higher level hierarchy requirements document to assure proper accountability and traceability.

Overall, the QA surveillance team determined that the "Technical Requirements Document for the YMP Midway Valley Trenching and Calcite/Silica Activities" (YMP/CM-007) was adequately and acceptably prepared and reviewed in accordance with the YMP QA procedures and controls and that no deficiencies were identified. Therefore it was concluded by the surveillance team that the YMP QA program was being effectively implemented throughout the YMP-review process.

On-Site Representative Comments:

This limited surveillance was useful, productive, and effective. The checklist used by the surveillance team was well prepared and utilized through the surveillance process. In particular the surveillance team exhibited a thoroughness in their review of the comments and resolutions and in their check to assure that the resolutions were properly incorporated in the Technical Requirements Document and closed out by the commenters. As a result of this surveillance there is reasonable assurance that the Technical Requirements Document was properly prepared and rereviewed in accordance with the YMP QA program procedures and controls.

Additional surveillances by the YMP will be necessary in order to verify acceptable implementation of corrective actions resulting from deficiencies relating to the Midway Valley, Calcite/Silica activities which were identified in the previous audit of the YMP QA program.

I have prepared a draft observation report detailing the results of this surveillance and submitted it to Ken Hooks for review and comments.

B. Readiness Review for Site Characterization Activities Pertaining to Midway Valley Trenching

The YMP plans to conduct on December 18 through 21, 1990, at Las Vegas, a readiness review of planning, procedures, drawings, specifications, controls and QA records to determine if all requirements and conditions to start site characterization activities pertaining to Midway Valley trenching are in place and acceptable. The readiness review process will be conducted in accordance with the YMP Readiness Review Procedure AP-5-13Q. The YMP QA organization will be a major participant in this readiness review and will perform similar to an audit function. The NRC On-Site representatives will participate as observers at this readiness review along with representatives from the NRC staff.

C. YMP QA Audit of T&MSS (SAIC)

The YMP QA Organization conducted a QA audit of Science Applications International Corporation's (SAIC) QA Program and quality related activities from November 13 through November 19 in Las Vegas, Nevada. This audit was observed by Teek Verma, John Buckley, and Tom Trbovich (Southwest Research Institute) representing NRC and by Susan Zimmerman representing the State of Nevada.

In the opinion of the audit team, the SAIC QA Program is adequate for initiation of quality-affecting activities. However, specific elements of the QA Program were identified as either indeterminate (due to a lack of implementation), marginally effective or ineffective. The following is a summary of those elements of the SAIC QA Program judged by the audit team to be indeterminate or marginally effective.

1. Due to the lack of sufficient implementation, the effectiveness could not be determined in the areas of Criteria 8 (Identification and Control of Items, Samples, and Data); Criteria 11 (Test Control); Criteria 13 (Handling, Shipping, and Storage); Criteria 14 (Inspection, Test and Operating Status); Criteria 19 (Software Quality Assurance); and Criteria 20 (Scientific Investigation Control).

2. In the area of Criteria 4 (Procurement Document Control), the audit team found several disconnects within the implementing procedures related to the process for the purchase of commercial grade items. Based on these conditions found in the procedures, the area was considered marginally effective.

3. In the area of Criteria 12 (Calibration), the audit team found implementation to be ineffective. This was based on SAIC's Quality Finding Reports (QFRs) which had been written to identify deficiencies found in implementation of the program procedures. The measures that have been taken by SAIC's management to date have not corrected the conditions.

The results of the audit documented five (5) Corrective Action Requests (CAR) that identified conditions adverse to quality found during the course of the audit investigation. The CARs related to deficiencies found in the areas of: Indoctrination and Training, Procurement, Instructions, Procedures and Plans, Inspection, and Corrective Action. None of the CARs generated as a result of the audit, either collectively or individually, represent a breakdown in the QA Program. What they do represent is a need for management attention to bring the SAIC QA Program into full compliance. Nine potential CARs were resolved during the course of the audit.

It is recognized by the audit team that the SAIC QA Program has only been in effect since May 21, 1990.

I understand that Teek Verma and John Buckley have drafted their observation report of this audit which will soon be released.

D. Status of YMP QA Workshops

The YMP QA Workshop reconvened on December 5 and 6, 1990, with participating members from the YMP and YMP Participants in attendance. The December 5 workshop was attended by P. Prestholt and J. Gilray (NRC On-Site Representatives) as observers and the December 6 workshop was attended by P. Prestholt. A formal Summary Report of the QA workshops will be prepared by the YMP and issued with NRC and the NWTRB on distribution.

The purpose of this QA workshop was to prepare a summary of the workshop process, findings, recommendations and proposed action items of the previous workshops (refer to J. Gilray, P. Prestholt memos of October 16, and October 31, 1990, to J. Linehan regarding the results of the previous workshops) and to develop summary slides and material for a formal presentation to the YMP with C. Gertz, Max Blanchard, and Don Horton in attendance. The formal presentation was presented to the YMP December 6, 1990, by members of the workshop.

Highlights of this workshop follows:

- The recommendations provided to the YMP on December 6 were accepted by C. Gertz and he agreed to devote the necessary resources to carry out these recommendations.

- With this agreement from C. Gertz the members of the workshop reconvened and identified and assigned action items as a start in carrying out the recommendations. These action items are:

1) Simplify the publication release process.
2) Establish an effective training process.
3) Simplify the preparation and use of procedures.
4) Clarify and simplify the document hierarchy.
5) Develop a charter for establishing a Technical Advisory Committee on QA Issues.
6) Develop a charter for establishing a Technical Advisory Committee on QA Issues.
7) Initiate development of an appeals process.
8) Set up a QA workshop on Software QA.
9) Set up a follow-up meeting to discuss the status of action item completion.

The next QA workshop to discuss the status of completing the action items is tentatively scheduled to be held in Las Vegas on January 23, 1991.

NRC On-Site Representatives Comments:

These QA workshops consisting of TPO's, Scientists, Technical and QA personnel from YMP participants are very productive in creating a clearer understanding and improved cooperation between technical, scientist and QA personnel. These workshops have created an attitude change between the scientists and QA personnel whereby the scientists are now demonstrating a willingness to work with QA, management and technical personnel in the preparation of QA procedural controls and in implementing these procedures. A definite cooperative spirit is exhibited at these workshops. It still remains to be seen how the accomplishments of these workshops are to be received by others outside the workshop, i.e., participants. However, with the scientists being part of the solution, this should facilitate in gaining greater acceptance of the workshop recommendations.

In summary we believe the QA workshops will contribute in bringing about an improved understanding and cooperation between the scientists, management, technical and QA personnel relative to developing and implementing QA procedural controls.

Paul Prestholt and myself have prepared a memorandum detailing the scope and results of this workshop and submitted it to John Linehan for information.

II. WASTE PACKAGE

The LLNL November monthly status report is enclosed. (Enclosure 1). It is encouraged that comments and/or questions regarding the contents of this report be directed through this office for action and resolution in order to minimize the impact on the YMP.

There are no new issues that this office has identified that have not been brought to management's attention.

cc w/enc: K. Hooks, M/S 4H3; J. Bunting, M/S 4H3; J. Latz
wo/encs: D. Shelor, C.P. Gertz, R.E. Loux, M. Glora, G. Cook, D.M. Kunihiro, D. Weigel, R.E. Browning, M/S 4H3; H. Denton, M/S 17F2, R. Bernero, M/S 6A4; H. Thompson, M/S 17G21; S. Gagner, M/S 2G5; L. Kovach, M/S NLS260

Lawrence Livermore National Laboratory

LLYMP9012012
December 5, 1990

WBS 1.2.9
"QA: N/A"

Carl Gertz, Project Manager
Department of Energy
Yucca Mountain Project Office
P.O. Box 98518
Las Vegas, Nevada 89193-8518

SUBJECT: Yucca Mountain Project Status Report - November 1990

Attached is the November Project Status Report for LLNL's participation in the Yucca Mountain Project.

If further information is required, please contact Elizabeth Campbell of my staff at FTS 532-7854.

Sincerely,

for Leslie Jardine
LLNL Technical Project Officer
for YMP

LJJ/EC/ec

cc:
Distribution

DISCLAIMER

The LLNL Yucca Mountain Project cautions that any information is preliminary and subject to change as further analyses are performed or as an enlarged and perhaps more representative data base is accumulated. These data and interpretations should be used accordingly.

LAWRENCE LIVERMORE NATIONAL LABORATORY YUCCA MOUNTAIN PROJECT

MONTHLY TECHNICAL HIGHLIGHTS AND STATUS REPORT

NOVEMBER 1990

TABLE OF CONTENTS

LAWRENCE LIVERMORE NATIONAL LABORATORY
(LLNL)
YUCCA MOUNTAIN PROJECT (YMP) STATUS REPORT

NOVEMBER 1990

1.2.1 SYSTEMS

1.2.1.1 Management and Integration

Staff attended the Technical Data Advisory Group meeting, November 2 in Las Vegas.

D. Morissette and P. Cloke visited LLNL on November 7 to discuss interfaces in the Systems WBS network charts relating to the implementation of the PACS system.

1.2.1.2.4 Systems Engineering Implementation

There are no LLNL-YMP controlled documents affected by the WMSR Vol. IV. This information was provided to the Project Change Control Board.

Staff attended an OCRWM meeting in Washington, D.C., November 13-16.

M. Revelli attended the Systems Engineering class in Las Vegas on November 26-29.

D. Ruffner has been assigned as a member of the Disposal Waste Physical System Functional Analysis Core Team.

1.2.1.4.2 Waste Package Performance Assessment

Staff attended an Analogue Workshop in Las Vegas, November 20.

Staff attended the site suitability committee meeting in Albuquerque on November 30. A performance assessment approach is being adopted. The required schedule is uncertain.

D. Chesnut and C. Carrigan attended a meeting of the Modeling Subcommittee, National Research Council, Yucca Mountain Hydrology Tectonic Panel in Menlo Park, CA on November 30. C. Carrigan made a presentation.

1.2.1.4.5 Geochemical Modeling and Database Development

The new code release, EQ3/6 version 3245.1090, and the associated database, was transmitted to Dr. William Murphy of the Southwest Research Institute, fulfilling the milestone "Database Release and EQ3/6 Code Release to the NRC". The new code package was also transmitted to Los Alamos National Laboratory, fulfilling an outstanding request. Other users of the code are being contacted to arrange release of the code/database to them.

It is important to note that the improved reliability, comprehensiveness, and versatility of the suite of thermodynamic datafiles relative to its single-file predecessor represents the most significant improvement in the EQ3/6 package between the version released in August, 1988 and that released this month.

As part of the upgrade process from INGRES 5.0 to INGRES 6.2, the relational thermodynamic database (formerly referred to as MDAIN) was renamed GEMBOCHS (an acronym for Geologic and Engineering Materials: Biography of Chemical Species).

1.2.2 WASTE PACKAGE

1.2.2.1 Management and Integration

Several requests for existing Yucca Mountain core samples have been prepared and forwarded to the Sample Overview Committee for consideration at the December 4 meeting.

Staff attended a high level waste management workshop in Albuquerque discussing site suitability with J. Bartlett, OCRWM Director.

W. Halsey and R. Day attended the four-day Systems Engineering training session held in Las Vegas, November 26-29.

1.2.2.2 Waste Package Environment

Chemical and Mineralogical Properties of the Waste Package Environment

Modeling zeolite solid solution/sorption processes continued.

Development of a strategy for the use of natural analogues continued, in conjunction with the design of preliminary validation experiments.

The first draft of input to the Preliminary Waste Package Environment Report was completed. It is currently undergoing revision.

Revision of the Geochemistry Study Plan (8.3.4.2.4.1), based on headquarters comments, continued.

Review of the proposed new Study Plan for Man-Made Materials (Geochemistry Study Plan Sections 8.3.4.2.4.1.2 and .6) is in progress.

Hydrologic Properties of the Waste Package Environment

T. Buscheck attended the PACE 90 "dry run" (for the NRC exchange) November 13 at SNL as well as the NRC Technical Exchange held November 29-30 in Albuquerque. T. Buscheck made presentations on Nonequilibrium Fracture/Matrix Flow at both meetings. Although the model results presented were originally intended primarily for the human intrusion "exploratory drilling" scenario, the

results were presented in a broader context which included an overview of the three principal approximations to fracture/matrix interaction. In particular, a comparison was made between the zeroth order approximation (which assumes the fractures and matrix blocks are in capillary equilibrium) and the second order approximation (which accounts for the nonequilibrium between fractures and matrix blocks by discretely accounting for flow within each continuum). The LLNL study looked at the consequences of maintaining a ponded condition in the repository for a period of time sufficient to see a breakthrough of an infiltration front at the water table. The analysis has been refined to include all of the hydrostratigraphic units from the middle of the repository horizon down to the water table. Apertures (b) of 50, 100, 200, 400, and 1000 μm were considered. The width of the wetting front (orthogonal to the fracture) was demonstrated to be a strong function of fracture aperture. For fracture-dominated flow regime I, the dependency is b^{-1}, while for fracture-dominated flow regime II, the dependency is b^{-3}. These results also corroborated earlier dimensionless analyses of this class of problems. At the NRC Exchange, this work was very favorably received by all who commented. The LLNL study convincingly demonstrated that nonequilibrium behavior between the fracture and matrix porosities should be accounted for in any hydrological performance analysis.

In the area of code development, work continued on debugging and enhancing pre- and post-processors for the V-TOUGH code. This work included clearing up some deficiencies in SAC contour plotting, adding the ability to reflect images across a symmetry plane and to zone and label hydrostratigraphic units on contour plots. Also, the capability of tracking fronts (e.g. wetting or temperature) in time was added. The use of PVWAVE was extended to the use of color graphical representation of pressure and saturation contour plots.

A preconditioned conjugate gradient liner equation solver package from Los Alamos was obtained. LLNL is adapting it to the V-TOUGH code in order to facilitate running 3-D problems.

Work continued on the fracture healing experiment. Some of the pressure transducers and the data acquisition unit used in the fracture healing experiment were sent to the calibration laboratories to be recalibrated in accordance with QA requirements. Repairs continue on the constant humidity chamber.

A memo was received (via YMPO) from Dr. Todd Rasmussen at the University of Arizona requesting a copy of V-TOUGH. A memo was sent to him for signature as a collaborator. When this letter is returned, a copy of V-TOUGH will be sent to Dr. Rasmussen.

Revisions have begun on the Study Plan for the laboratory section of the Near Field Environment Hydrology Task.

Staff supplied proposed work scope and budget estimates to C. Voss for LLNL's potential role in the Yucca Mountain Project's plan for participating in INTRAVAL.

The paper by W. Lin entitled "Variation of Permeability with Temperature in Fractured Topopah Spring Tuff Samples" has been submitted to the International High Level Radioactive Waste Management (IHLRWM) Conference to be given in

Las Vegas in April 1991. A second paper was completed for submission to the IHLRWM by W. Lin and W. Daily entitled "Laboratory Determined Suction Potential of Topopah Spring Tuff at High Temperature".

A paper by D. Wilder entitled "Hydrology Impacts on Waste Isolation Yucca Mountain Prospective Repository Nevada" is in the technical review process and will be submitted to the International High Level Radioactive Waste (IHLRW) Conference in Las Vegas in April 1991.

A paper by J. Nitao entitled "Theory of Matrix and Fracture Flow Regimes in Unsaturated, Fractured Porous Media" is in the technical review process and will be submitted to the International High Level Radioactive Waste (IHLRW) Conference in Las Vegas in April 1991.

Mechanical Attributes of the Waste Package Environment

A request was sent to U. Clanton for core samples when they become available from Topopah Spring Tuff.

Continued to revise the Study Plan for Characterization of Mechanical Attributes of the Waste Package Environment (Study Plan 8.3.4.2.4.3) incorporating the review comments received.

EBS Field Tests/ESF Test Design

A Resolution meeting was held on November 16 to resolve the comments made by Dale Wilder as Technical Review Coordinator and the authors of the paper entitled "Prototype Engineered Barrier System Field Tests - Final Report". The paper will soon be submitted to YMPO for approval.

Review comments have been incorporated for the paper by K. Lee entitled "Air Injection Field Measurements to Determine the Effect of a Heat Cycle on the Permeability of Welded Tuff". The paper will be submitted to YMPO.

1.2.2.3 Waste Form and Materials Testing

Waste Form Testing - Spent fuel

The replacement cooler has been installed in the Ar glove box. Tests have been done by operating the box at various oven temperatures with the cooling unit operating. The O_2 concentration during these tests remained in the range 1-2 ppm. The results are quite satisfactory which implies that the cooling unit has enough capacity to balance out the thermal energy from the oven up to 90°C. The next experiment will consist of introducing a completely assembled, empty sample cell through the lock and into the main box enclosure, and noting how much this changes the O_2 concentration.

The drybaths were brought to temperature on November 13 and have been operating without incident. Three additional drybaths were compared to reference

thermocouples and agreed within ~1°C. The run will continue until December 20 at which time they will be shut down for the holidays.

A hot cell flow-through test column containing individual grains of ATM 106 spent fuel (from 7% gas release 43 MWd/MTU burn-up rod) was transferred from the Performance Assessment Scientific Support (PASS) program to the LLNL/YMP program. Matrix dissolution rates in deionized water (DIW) had been measured in this column under the PASS program. The water was changed to 171 mg/ml $NaHCO_3$ solution as an initial experiment to evaluate the effects of water chemistry on matrix dissolution rates with actual spent fuel.

The three flow-through test columns that had been running with unirradiated UO_2 were terminated. Auger microprobe examination of a UO_2 particle from the terminated column that had been running with DIW+Si+Ca solution did not show Si or Ca on the particle surface. Formation of Si- and Ca-containing surface layers have been confirmed only for water types containing dissolved bicarbonate plus Si and/or Ca.

Work continues on the Waste Form Characterization Report.

A draft was prepared for an Activity Plan and Test Plan for PNL on Flow-Through Dissolution Tests on Spent Fuel.

The following two papers are in technical review for submittal to the International High Level Radioactive Waste (IHLRW) Conference. The first by R. Stout, E. Kansa and R. Einziger is entitled "Spent Fuel Waste Form Characteristics: Statistical Dependence of Grain and Fragment Size Distributions on Oxidation Rate". The second paper by R. Stout, H. Leider, C. Wilson, H. Weed, S. Nguyen, W. McKenzie, W. Gray and S. Prussin is entitled "Spent Fuel Waste Form Characteristics: Statistical Dependence of Grain and Fragment Size Distributions on Dissolution Rate".

Waste Form Testing - Glass

A major portion of the effort this year will be in contributing to the Waste Form Characterization Report. ANL will contribute to Sections 5.5.1, Glass Species Composition Statistics, and 5.5.2, Glass Fracture (Fragmentation Statistics). Work on these sections is in progress. In addition, ANL will contribute to Section 6, Repository Waste Form Response. This is an extremely important section because it identifies important parameters that will control radionuclide release from the glass. The processes of radionuclide release must be accounted for during performance assessment and waste package design. To do a credible job in both areas, all important parameters and processes that affect glass reaction and radionuclide release must be identified.

The Task Plan, "YMP Static Leach Tests", controlling the long-term static leach testing of DWPF glass has been reviewed by LLNL-YMP and is being revised.

A paper by W. Bourcier entitled "Overview of Chemical Modeling of Nuclear Waste Glass Dissolution" was presented at the Symposium on the Scientific Basis for Nuclear Waste Management XIV in Boston, MA.

Container Materials Modeling and Testing

The staff conducted a one-day meeting to discuss the modeling needs for waste container material degradation. The emphasis of the discussion was to establish priorities since resources (manpower and funding) in this area are limited. Attendees in addition to the Container Material and Testing technical area included Performance Assessment technical area personnel, and D. Stahl and U. Park from SAIC.

D. McCright attended the MRS meeting in Boston, MA on November 26-30, where he presented a paper on the YMP waste package program. A subcontractor to LLNL-YMP from Argonne National Laboratory (D. Reed) also presented a paper co-authored by R. Van Konynenburg, dealing with studies being conducted to assess the effects of gamma radiation on the near field environment outside of a waste package.

The staff attended a one-day workshop conducted by the Nickel Development Institute in Burlingame, CA on November 12. This workshop covered the latest developments in the selection and use of nickel alloys, including those which are current candidates for YMP.

The staff hosted two professors from UNLV (Drs. Skagg and Monjaes) at LLNL-YMP on November 13. These professors are interested in LLNL-YMP work involving waste package concepts, and they discussed their concept being developed under separate YMP funding.

Integrated Radionuclide Release

Examined core library photos, selected core for experiments, and requested permission to examine and acquire drill core from YMP archives.

Completed Scanning Electron Microscopy (SEM) analysis and photo documentation of the banded chert analogue and prepared for Rare Earth Element analysis.

Staff discussed availability of information and role of man-made colloids with C. Wittwere at LBL.

An extended abstract by M. Buchholtz ten Brink, et. al., was submitted to the conference on Concepts in Manipulation of Groundwater Colloids for Environmental Restoration (conference was attended by staff in October).

The manuscript by M. Buchholtz ten Brink, et. al., entitled "Actinide Transport in Topopah Spring Tuff: Pore Size, Particle Size, and Diffusion" was submitted and accepted to the MRS proceedings volume. Other MRS papers were reviewed.

The manuscript entitled "Mineralogical, Textural and Compositional Data on the Alteration of Basaltic Glass from Kilauea, Hawaii to >300°C: Insights to the Corrosion of a Borosilicate Glass Waste-Form" was accepted for the MRS proceedings volume. It was presented at the meeting in Boston on November 26-29.

Staff attended the Symposium on the Scientific Basis for Nuclear Waste Management XIV at the MRS meeting in Boston on November 26-29.

Thermodynamic Data Determination

Study of the Pr-acetate system was initiated. Thirteen solutions spanning the ligand-to-metal ratio range of 0-20 were interrogated with the Guided Wave spectrometer at five temperatures between 20 and 95°C. Approximately 85 visible spectra were acquired to monitor the complexation shift of the 482-nm absorption band. A paper by P. Robouch, P. Grant, R. Torres, P. Baisden and R. Silva entitled "Development of High-Temperature UV-VIS-NIR Spectroscopy for the Measurement of Free Energies of Complexation at Elevated Temperatures" was presented at the Symposium on the Scientific Basis for Nuclear Waste Management XIV. This paper presented the results of the Pr-diglycolate study.

Measurements of U(IV)/carbonate complexation were completed using the remote photoacoustic spectroscopy system. Spectral measurements were initiated on the Am(III) hydrolysis system.

1.2.2.4 Design, Fabrication, and Prototype Testing

Waste Package Design
No significant activities.

Container Fabrication and Closure Development

The staff and the LLNL-YMP QA auditors performed an audit on all test pieces and excess materials, including the 35 boxes of documents transmitted earlier by Babcock and Wilcox Co., Alliance, OH. This audit confirmed that all materials were transmitted as requested to terminate the subcontract for fabrication and closure process development studies at B&W.

Container/Waste Package Interface Analysis

D. Ruffner participated in the Systems Engineering meeting held in Washington, D.C. on November 13-15.

Internal review began on an LLNL-YMP draft report on the application of the systems engineering process to the identification of functions and requirements allocated to the EBS.

1.2.5 REGULATORY AND INSTITUTIONAL

NRC Interaction Support

Staff participated in the NWTRB Quality Assurance Panel November 1-2 in Arlington, VA and the Technical Interchange on Performance Assessment in Albuquerque on November 28-29.

Staff gave presentations to the NRC Technical Exchange on Performance Assessment in Albuquerque, November 28-29.

Site Characterization Program

Staff attended the Integration Group meeting on the state of Nevada's September, 1989 comments on the Site Characterization Plan at YMPO on November 26-28. About 120 comments were determined to need input from LLNL.

Technical Support Documentation

No significant activities.

Study Plan Coordination

No significant activities.

Semi-Annual Progress Reports

The draft Third Technical Status Report (TSR) was received for review.

1.2.9 PROJECT MANAGEMENT

1.2.9.1 Management

LLNL's twelve QA grading packages were submitted to the QRB for acceptance. Two staff members attended a QRB meeting to obtain further guidance in QA Grading Package preparation. On the fourth iteration, three packages were accepted. LLNL-YMP is using those as a model for revising the remaining packages.

Submitted to YMPO a change request for Administrative Procedure 5.28Q, "Quality Assurance Grading", Rev. 2.

LLNL-YMP provided references to YMPO on LLNL's regulation of hazardous wastes. LLNL-YMP appointed primary and alternate Hazardous Materials Coordinators and agreed to write a YMP-specific plan prior to commencing YM-site experiments involving hazardous materials.

Technical presentations were given at LLNL staff meetings:
November 5 - W. Glassley discussed Chemical and Mineralogical Properties of the Waste Package Environment

November 19 - M. ten Brink discussed Integrated Testing for Radionuclide Release

November 26 - Apache Leap Videotape

A. Berusch visited LLNL on November 7 to discuss lead as a EBS material and the Spring 1991 NWTRB Workshop on EBS/Waste Package Concepts.

L. Jardine attended the EPA briefing on Performance Assessment in Albuquerque on November 27.

L. Jardine attended the Site Suitability Workshop on November 14-16 in Albuquerque .

L. Jardine, D. Wilder, and L. Ballou attended the Systems Engineering Executive Session in Las Vegas on November 30.

1.2.9.2 Project Control

Provided support and information for the Nuclear Waste Fund audit being conducted by the CPA firm of KPMG Peat Marwick.

Provided support and information for the audit being conducted by the Office of the DOE Inspector General.

Prepared a listing of equipment purchased by Nuclear Waste Fund and submitted to YMPO.

Modified SANL and subcontract agreements to include more extensive record package specifications.

The Information Technology Resources (ITR) committee visited LLNL on November 12-14. LLNL-YMP continued the update process for the ITR Long Range Plan.

Submitted the Property Control System Evaluation Questionnaire to YMPO.

Submitted the monthly FTE Report, Schedule Status Report and Cost Plan to YMPO.

Continued collection of percent complete and costs by Summary Account level.

Continued the updating process for PACS network data.

1.2.9.3 Quality Assurance

R. Dann was brought on board as the QA Manager. He will work with D. Short during the transition period which is anticipated to be about 60 days long.

Auditors from the Nuclear Waste Fund completed their visit to LLNL-YMP in November. There were no findings or observations.

Auditors from the DOE Inspector General's Office began their visit to LLNL in November.

Participated in DOE Surveillance YMP-SR 91-04.

Conducted QA Audit 91-11, Babcock and Wilcox Materials, at LLNL on November 16.

Completed and distributed Quality Procedure 12.0 "Control of Measuring and Test Equipment", Rev. 2, and Quality Procedure 17.0 "QA Records", Rev. 2.

Distributed and transmitted to YMPO Audit Reports LLNL-90-07, "Near Field Environment Modeling and Testing" and LLNL-90-08 "Geochemical Modeling".

Transmitted to YMPO the signed Interface Identification/Memorandum of Understanding document Control Number 660015, Rev. 1, "ESF Alternatives Study".

Submitted to YMPO notification of corrective action completion for Standard Deficiency Report 540.

Submitted to YMPO Nonconformance Reports LLNL-021, LLNL-034, LLNL-051, LLNL-052, LLNL-054, LLNL-059, and LLNL-060. These NCRs have now been completed and verified.

Distributed LLNL-YMP FY90 Quality Assurance Audit Schedules, Rev. 8.

Submitted to YMPO LLNL-YMP FY90 Quality Assurance Surveillance Schedule, Rev. 5 and LLNL-YMP FY91 Quality Assurance Surveillance Schedule, Rev. 0 .

R. Dann and D. Short attended the QA Manager meeting on November 30 in Las Vegas.

EXTERNAL

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